New method to sensitize human ovarian cancer cells to a targeted cytotoxic drug

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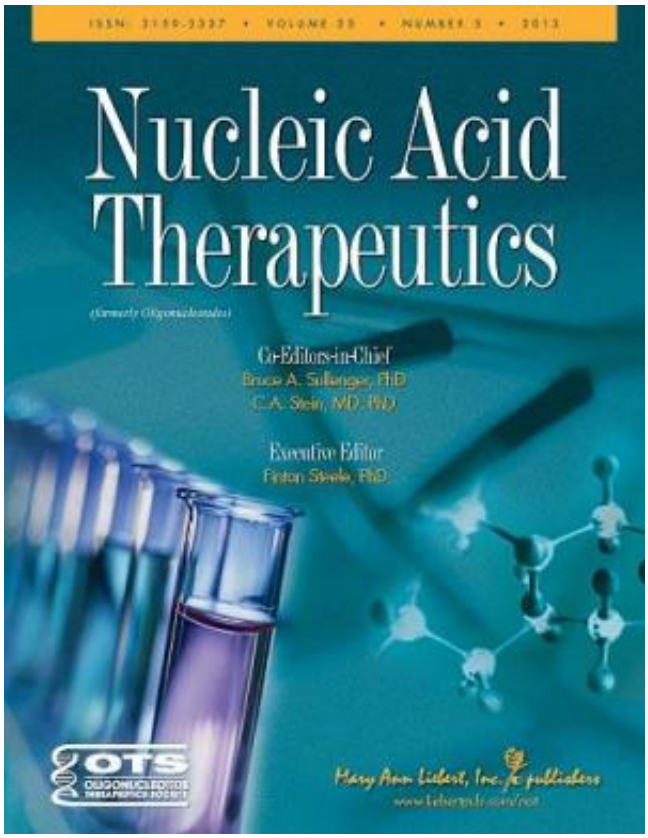

A novel, targeted approach to chemotherapy that makes ovarian cancer cells more susceptible to the cytotoxic effects of an antitumor drug may offer a safer, more effective treatment option for this often deadly form of cancer. The research and results are published in *Nucleic Acid Therapeutics*.

Ovarian cancer is usually diagnosed at an advanced stage of disease, and although most patients initially respond to conventional chemotherapeutic agents, the cancer typically recurs and the overall survival rate is poor. Furthermore, current chemotherapeutics for ovarian cancer are nonspecific and generally toxic causing debilitating side effects. More effective and specific agents are needed that target ovarian cancer cells and inhibit their ability to reproduce.

Sibaji Sarkar and Douglas Faller, Boston University School of Medicine (Boston, MA), successfully advanced their research to develop anti-tumor drugs comprised of nucleic acids, the building blocks of DNA. They had previously shown that so-called "GT-oligos" (which target and bind to nucleic acid sequences present in regions found at the ends of chromosomes, called telomeres) can trigger cell death in certain types of cancer cells, including ovarian, pancreatic, and prostate cancer. However not all cancer cells in these and other tumor types are susceptible to the effects of GT-oligos.

In the current study the authors take this work a step further and demonstrate a novel method to sensitive resistant ovarian cancer cells to this targeted chemotherapeutic approach. They describe the details of this strategy and the potential to apply this technique more broadly to treat other types of epithelial cancers in the article " Telomere-Homologous G-rich Oligonucleotides Sensitize Human Ovarian Cancer Cells to TRAIL-Induced Growth Inhibition and Apoptosis." (http://online.liebertpub.com/doi/full/10.1089/nat.2012.0401)

"The devastating mortality rate from ovarian cancer has not changed since the 'War on Cancer" was declared in 1971," says Executive Editor Fintan Steele, PhD, SomaLogic, Inc., Boulder, CO. "We need to improve both early diagnosis and find novel treatments. The work by Sarker and Faller provides a new and promising approach for treatment of this particularly difficult form of cancer."

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